

Memorandum of Understanding
between
Pratt & Whitney Company
and



RDMS DocID 00100183

U.S. Environmental Protection Agency

The parties to this Memorandum of Understanding (MOU) are United Technologies Corporation, Pratt & Whitney Division (Pratt & Whitney) and the United States Environmental Protection Agency, Region I (EPA-New England). The purpose of this MOU is to set forth the general framework for a cooperative voluntary Corrective Action program, with the initial goal of stabilization, at certain Pratt & Whitney facilities. The facilities which are the subject of this MOU are:

1. Pratt & Whitney, Colt St., East Hartford, CTD000844399
2. Pratt & Whitney, Pent Rd., East Hartford, CTD000845131
3. Pratt & Whitney, Main St., East Hartford, CTD990672081
4. Pratt & Whitney, Washington Ave., North Haven, CTD001449511
5. Pratt & Whitney, Belamose Ave., Rocky Hill, CTD000844407
6. Pratt & Whitney, Aircraft Rd., Southington, CTD001149277

The above facilities will be referred to in this MOU as the "Facilities."

It is our joint understanding that:

I. A. The voluntary corrective action program outlined herein is undertaken with the objective of achieving stabilization of the Facilities through a streamlined process which best utilizes the resources of each party. The activities by Pratt & Whitney pursuant to this MOU are undertaken voluntarily to accelerate stabilization of the Facilities and not

pursuant to any order or binding directive or permit condition or pursuant to a settlement of a dispute.

B. By entering into this MOU, Pratt & Whitney does not admit to any fact, fault or liability under any statute or regulation.

II. Pratt & Whitney, as part of its stabilization effort, will perform an investigation, using a current land use of industrial/commercial, to identify releases of hazardous waste and/or hazardous constituents at the Facilities; determine, where necessary, the nature and extent of any releases; and determine the significance of these releases. It is imperative that sufficient and representative information/data be obtained so that Pratt & Whitney can make determinations regarding releases of concern and propose interim corrective measures if necessary. The requirement to delineate the extent of any release should not be strictly interpreted as a mandate to delineate the extent of a release down to background concentrations at every area of potential contamination; in some cases information adequate to support stabilization decisions may be obtained through delineation to action levels or to risk-based concentrations, using a land use of industrial/commercial, in areas which are likely to be ongoing sources of contamination (e.g. areas that are located outside a building and which are susceptible to infiltration). Achieving the objective of determining the nature and extent of releases involves developing an understanding of both the physical and chemical aspects which describe the presence, movement, fate and risks associated with environmental contamination. It is not achieved by delineation to any particular standard be it a risk based concentration or background concentration.

The investigation shall include:

A. Characterization of physical setting (geology, hydrology, meteorology, ecology, land uses, etc.) supported by site specific investigation sufficient to understand the transport and fate of known and potential releases and to identify all potential human receptors of those releases.

B. Documentation of site activity and hazardous waste and/or hazardous constituents used or generated at the Facility to provide the basis for focusing sampling efforts on specific units, releases, potential releases, exposure pathways of concern, and specific hazardous wastes and hazardous constituents.

C. Collection and analysis, in accordance with a Quality Assurance Project Plan, of wastes, groundwater, surface water, soil, sediment and air samples at all areas of concern sufficient to identify all releases, characterize and encompass the extent of these areas, and characterize release source areas.

D. Performance of any activities necessary to evaluate threats to human health resulting from any releases of hazardous waste or hazardous constituents at or from the Facility. This may include modeling of contaminant fate and transport, graphical analyses of collected data, statistical analyses of collected data, and human health risk assessment.

Technical provisions of Appendices 1, 2, 3, and 4 of Region I's §3008(h) Model Order and the guidance documents referred to therein will be used as guidance in the conduct of investigations, field work, sampling, analyses, data validation, and data interpretation.

EPA-New England recognizes that some work has already taken place at the Facilities and that plans for some areas may be limited to: documentation of decisions and work that has already occurred, and confirmatory sampling.

III. Investigation results will be used to identify stabilization needs, as discussed in section V below, at each of the facilities. As work progresses the need for interim measures, as discussed in point IV below, will be continually reviewed. When investigation results are available, the target of activity under this MOU (stabilization or final remedy) may be reviewed and revised by the mutual agreement of both parties. Revision of parts of the MOU may be required to address progress to final remedy (e.g.,

consideration of ecological risks). It is understood that all investigation, stabilization and interim measures will be consistent with the present land use at the Facilities. It is also understood that Facilities which choose to work toward a final remedy may achieve stabilization before a final remedy is selected and implemented.

IV. Interim Measures are proposed and implemented when conditions at a facility present a threat to human health and/or the environment. As warranted, Pratt & Whitney will implement interim measures to control or abate actual threats, prevent imminent threats from occurring, and/or keep contamination problems from increasing in scope.

The factors to determine the need and appropriateness of a given interim measure (as described in Proposed 40 CFR §264.540) are:

- A. Time to implement the final remedy;
- B. Actual or possible exposures to nearby populations or animals;
- C. The threat of contamination to drinking water;
- D. Further degradation if the interim measure is not carried out;
- E. The presence of wastes that pose a threat of release;
- F. Hazardous wastes in soils that could migrate;
- G. Weather conditions that may cause releases of hazardous wastes;
- H. Risks of fire/explosion or exposure to the hazardous wastes; and
- I. Other situations that may pose threats to human health and the environment.

V. The following performance standards shall be met as the Stabilization Measure of Success:

A. Human Exposures Controlled Performance Standard

Based upon guidance specified in the July 29, 1994 U.S. EPA "RCRIS Corrective Action Environmental Indicator Event Codes" memorandum, one of the two following criteria must be met. These are:

Remedial measures have been implemented with the result that all maximum contaminant concentrations detected or reasonably suspected are less than or equal to their respective action levels or do not exceed an EPA specified cleanup standard for the Facility.

OR

There is no unacceptable human exposure to any contaminant concentration above action levels that has been detected or is reasonably suspected based on current contaminant concentrations and current site conditions. Although contamination remains at the Facility that may require further remediation, action has been taken or site conditions are otherwise such that unacceptable threats to human health from actual exposure to the contamination are not plausible based on current uses of the site. Such actions may include the use of physical barriers or institutional controls (e.g. deed restrictions or alternative water supply).

B. Groundwater Releases Controlled Performance Standard

Based upon guidance specified in the July 29, 1994 U.S. EPA "RCRIS Corrective Action Environmental Indicator Event Codes" memorandum, one of the two following criteria shall be met. These are:

An engineered system has been installed that is designed and operating (including performance monitoring) to effectively control the further migration beyond a designated boundary such as the engineered system, the Facility boundary, a line upgradient of receptors, or the leading edge of the plume as defined by levels above EPA established action levels or clean-up standards.

OR

The EPA has determined that the groundwater cleanup objectives can be met without the use of an engineered system through the remedial measures selected, including Facilities where the contamination will naturally attenuate.

VI. Pratt & Whitney will conduct public involvement activities that inform the local community of the voluntary corrective action activities at each Facility.

VII. Pratt & Whitney will develop measurable and attainable performance standards by which the effectiveness of selected interim measures/final remedies can be evaluated. These standards will be developed prior to the implementation of an interim measure/final remedy and they must be developed to evaluate each individual interim measure/final remedy implemented (i.e., implementation performance standards are area and remedy specific). Examples are provided as follows:

A. Soil sampling used to confirm that remediation of contaminated soils has been completed to the extent necessary to reduce soil contaminant levels to less than or equal to the site specific media protection standards.

B. Sampling downgradient of a groundwater plume to measure the effectiveness of a pump and treat system or the effectiveness of a retaining wall in stopping contaminant plume migration.

VIII. Pratt & Whitney will prepare and submit a work plan, 130 calendar days from the signing date of this MOU, which discusses the activities that will be performed in order to achieve the stabilization goals set forth in this MOU. This work plan will include the following items:

A. A summary of the investigation/remediation activities which have occurred at the Facilities.

B. The methodologies that Pratt & Whitney will utilize to: 1) identify specific units, releases and exposure pathways of concern, using a land use of industrial/commercial; 2) understand the transport and fate of known and potential releases; and, 3) identify all actual or potential human receptors.

C. A Data Collection Quality Assurance Plan and a Data Quality Objectives Plan.

D. A Data Management Plan.

E. A Public Involvement Plan.

F. A schedule which indicates major milestones and submittal dates.

IX. Pratt & Whitney will initiate stabilization activities at the Facilities, where necessary, on or before December 31, 1999. Modifications to this initiation date may be made by mutual agreement of both parties.

X. Pratt & Whitney will hold semi-annual progress meetings with EPA-New England and the CTDEP. Issues to be discussed in these progress meetings will include: 1) a summary of the activities which have occurred over the past six months; 2) a review of progress towards completion of scheduled milestones; 3) a summary of any pertinent investigation findings; 4) a review of any changes in the schedule; 5) a review of any ongoing or proposed stabilization activities or interim measures. Representatives from EPA-New England and CTDEP will be provided with copies of the slides used in these progress meetings.

XI. The project coordinators responsible for overseeing the implementation of the stabilization activities at the Facilities are as follows:

Pratt & Whitney;

Troy Charlton
C/O Pratt & Whitney
400 Main Street, MS 105-11
East Hartford, CT 06108
Ph (860) 565-7380
Fax (860) 565-3324

EPA-New England;

Ernest Waterman
U.S. EPA New England
Mail Code HBT
J.F.K. Federal Building
Boston, MA 02203

Either party may change their Project Coordinator but agree to provide written and/or verbal notification of such change within a reasonable period.

To the extent practicable, all communications between Pratt & Whitney and EPA-New England shall be directed through the Project Coordinators.

XII. Although not a party to this memorandum of agreement, it is anticipated that the State of Connecticut will provide input on the Areas of Concern to be addressed at each Facility and on the stabilization activities proposed at each Facility.

The State of Connecticut will be copied on all reports and correspondence submitted to the EPA-New England. In addition, as stated in Section X above, a representative from the CTDEP will be invited to all semi-annual progress meetings.

XIII. The benefit to EPA-New England of entering an agreement in which Pratt & Whitney pursues Voluntary Corrective Action is the ability to focus EPA-New England resources on a greater number of facilities that require Corrective Action. (This supports EPA-New England's year 2000 goal: to

achieve stabilization or final remedy at the 157 high priority facilities in Region I.) As a result, EPA-New England input on investigation plans and results will be limited. Lack of a formal response to any given document should not be taken as approval of the document or any of the plans, conclusions, or recommendations it might contain. Likewise, formal response on any portion of a document should not be taken to mean that any other part of the document has been reviewed and found acceptable. Conversely, Pratt & Whitney should maintain communication with EPA-New England and raise any problems to EPA-New England as they occur. EPA-New England will lend its support and guidance to Pratt & Whitney as resources allow.

XIV. Stabilization Determinations, Preliminary Media Cleanup Standards Determinations, Preliminary Media Cleanup Point of Compliance Determinations, and Final Remedy Selection:

- A. EPA-New England will determine whether stabilization measures of success have been attained when Pratt & Whitney submits documentation in support thereof.
- B. EPA-New England will make preliminary media cleanup standards determinations and preliminary media cleanup point of compliance determinations at Pratt & Whitney's request. However, EPA-New England will make final determinations on media cleanup standards and media cleanup point of compliance through issuance of a permit or administrative order incorporating public notice and comment provisions as set out at 40 CFR Part 124 and Part 270.
- C. EPA-New England will make preliminary remedy selection determinations at Pratt & Whitney's request. EPA-New England will make final remedy determinations through issuance of a permit or administrative order incorporating public notice and comment provisions as set out at 40 CFR Part 124 and Part 270.

XV. EPA-New England will monitor Pratt & Whitney's progress relative to their workplan schedule and the general performance standards set out in

this MOU. If EPA-New England perceives that the voluntary Corrective Action is not achieving the goals set out in this MOU, EPA-New England reserves the right to all its legal remedies.

XVI. Reservation of rights:

A. This MOU and any of the undertakings, requirements or standards set forth in this MOU are intended to express the parties intentions and do not constitute binding or enforceable obligations. Pratt & Whitney or EPA-New England may, in their sole discretion, withdraw any or all of the Facilities from the activities contemplated by this MOU. Neither the entering into of this MOU nor the withdrawal of any or all of the Facilities from the MOU nor the failure of Pratt & Whitney to comply with the requests, directions, requirements or advice given to Pratt & Whitney pursuant to this MOU shall be asserted as a violation of any law, regulation, order or agreement.

B. EPA-New England reserves all of its statutory and regulatory powers, authorities, rights, and remedies, both legal and equitable, which may pertain to Pratt & Whitney's activities at the facilities identified in this MOU. This MOU shall not be construed as a covenant not to sue, release, waiver, or limitation of any rights, remedies, powers, and/or authorities, civil or criminal, which EPA-New England has under RCRA, CERCLA, or any other statutory, regulatory, or common law authority of the United States.

C. EPA-New England reserves the right to disapprove of work performed by Respondent pursuant to this MOU and to request that Respondent perform additional tasks.

D. If EPA-New England determines that activities undertaken in compliance with this MOU have caused or may cause a release of hazardous waste or hazardous constituent(s), or a threat to human health and/or the environment, or that Pratt & Whitney is not capable of undertaking the work proposed, EPA-New England may order


Pratt & Whitney to stop further implementation of activities undertaken pursuant to this MOU for such period of time as EPA-New England determines may be needed to abate any such release or threat and/or to undertake any action which EPA-New England determines is necessary to abate such release or threat.

E. This MOU is not intended to be, nor shall it be construed to be, a consent order or permit. The parties acknowledge and agree that EPA-New England's approval of plans (e.g. workplans, proposals, statements of work, scopes of work, project plans quality assurance project plans, etc.) does not constitute a warranty or representation that the plans will achieve the required cleanup or performance standards. Compliance by Pratt & Whitney with the terms of this MOU shall not relieve it of its obligations to comply with RCRA or any other applicable local, state, or federal laws and regulations.

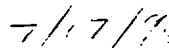
F. Pratt & Whitney may terminate this MOU in its entirety by giving EPA-New England written notice of its intent to do so and such termination shall be effective immediately. Pratt & Whitney may withdraw from any part of this MOU by the giving of written notice. Pratt & Whitney shall not be subject to any penalties, fines or sanctions of any manner for its withdrawal from all or part of this MOU.

XVII. All actions undertaken by Pratt & Whitney in response to this MOU are voluntary, are conducted at the sole discretion of Pratt & Whitney and are the sole responsibility of Pratt & Whitney. Indemnification normally required under a permit or order where action is compelled by EPA-New England is not required. All actions even those initiated in response to EPA-New England advice or guidance will be the sole responsibility of Pratt & Whitney.


Agreed to:



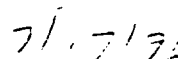
Matthew R. Hoagland, Chief
RCRA Corrective Action Section



Date



United Technologies Corporation, Pratt & Whitney
Ronald Henson, VP Environment, Health & Safety



Date